Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
	)	GEN Docket No. 90 - 314
Amendment of the Commission's Rules to establish New Personal Communications Services	)	ET Docket No. 92 -100

COMMENTS OF THE MANAGER OF THE NATIONAL COMMUNICATIONS SYSTEM

The Secretary of Defense, Executive Agent of the National Communications System (NCS)[1], through duly authorized counsel, pursuant

[1]Executive Order No. 12472, "Assignment of National Security and Emergency Preparedness Telecommunications Functions," April 3, 1984 (49 Fed. Reg. 13471, 1984), established the National Communications System (NCS), which consists of an administrative structure involving the Executive Agent, Committee of Principals, Manager, and the telecommunications assets of the Federal organizations which are represented on the Committee of Principals. Section 1(e) of Executive Order 12472 designates the Secretary of Defense as Executive Agent for the NCS. By direction of the Executive Office of the President (EOP), the NCS members organizations (which are represented on the Committee of Principals) are: Department of Agriculture, Central Intelligence Agency, Department of Commerce, Department of Defense, Department of Energy, Federal Emergency Management Agency, General Services Administration, Department of Justice, National Aeronautics and Space Administration, the Joint Staff, Department of State, Department of Transportation, Department of Treasury, U.S. Information Agency, the Department of Veterans Affairs, Department of Health and Human Services, Department of the Interior, National Security Agency, the National Telecommunications and Information Administration and the Nuclear Regulatory Commission. The Federal Communications Commission, the United States Postal Service and the Federal Reserve Board also participate in the activities of the NCS. The vast majority of the telecommunications assets of these 23 organizations are leased from commercial communications carriers and serve the NS/EP needs of the Federal government as well as state and local governments.

to Section 201 of the Federal Property and Administrative Services Act of 1949, 40 USC Section 481, and the Memorandum of Understanding between the Department of Defense and the General Services Administration dated November 27, 1950, hereby files these comments to address the National Security/Emergency Preparedness (NS/EP) issues inherent in the captioned proceeding.

The Manager of the National Communications System (Manager) is in receipt of correspondence from the Executive Agent transmitting guidance from the White House as to functional requirements for the National Level Telecommunications Program. (Attachment A hereto.) The Manager believes that the newly emerging Personal Communications Services (PCS) has the potential to offer the NS/EP telecommunications planner and user an extremely valuable means to communicate in times of natural or man-made disaster, including war-time situations, when the Public Switched Network (PSN) may or may not be fully available.[2] The ultimate usefulness of PCS in meeting NS/EP needs of the National Level Telecommunications Program will depend on how the industry develops, and the Manager addresses those needs below.

THE COMMISSION HAS HISTORICALLY TAKEN NSEP CONCERNS INTO ACCOUNT IN ITS REGULATORY ACTIONS

Section 1 of the Communications Act establishes that the FCC was established, in part, "for the national defense." 47 U.S.C. Sec. 151.

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[2]The Commission recognized the possibility in this proceeding. "PCS also could also augment emergency communications when disasters, such as earthquakes or tornadoes, render the public switched network inoperable." Notice of Proposed Rule Making and Tentative Decision (the "Notice"), Paragraph 26.

Since the enactment of that provision, the FCC has consistently recognized its duty to consider NS/EP concerns and goals when exercising its regulatory responsibilities. The Commission has allowed call-by-call priorities over the PSN for NS/EP purposes. In the matter of a Precedence System for Public Correspondence Service Provided by the Communication Common Carriers, 20 FCC 2d 169 (1969). More recently, the Commission authorized a system for the priority restoration and provisioning of vital NS/EP telecommunications services. National Security Emergency Preparedness Telecommunications Services Priority System, 3 FCC Rec 6650 (1988). In the TSP Report and Order the Commission stated:

> "As noted in the NPRM, the Commission is charged with promoting the safety and life and property and with ensuring effective communications for the "purpose of the national defense." 47 USC Sec 151. We also noted that all provisions of the Act must be read in light of that statement of purpose, and that we have often been required to consider national security interests in our orders, e.g., AT&T (Divestiture Order), 98 FCC 2d. 141 (1983). We have consistently sought to balance the needs of NSEP interests with the needs of the general public..." 3 FCC Rec 6651 (1988).

It is therefore entirely appropriate that NS/EP concerns be considered by the Commission herein.

INTEROPERABILITY AND ROAMING

From an NS/EP telecommunications perspective, interoperability and roaming are vital requirements. Since that the NS/EP mission covers the entire United States, the telecommunications services provided by PCS must interoperate fully with the PSN to provide a seamless environment for the NS/EP user. Paragraph 130 of the Notice indicates that the Commission is tentatively proposing not to require intersystem

interoperability among different licensees. Interoperability, to include interconnection to the PSN and intersystem interoperability, must ultimately be achieved so that the NS/EP user can utilize one type of equipment on a nationwide basis. Not knowing precisely which PCS services may develop, the Commission expresses the view (Notice, paragraph 130) that the licensee should have the flexibility to determine which PCS services are the most needed and to provide those services by the most advantageous technology. While the Commission's inability to foresee precisely how the PCS services will develop is certainly understandable, at a minimum all PCS providers should be required to offer voice services interconnected to the PSN. Having additional voice services available in the event of an NS/EP emergency situation would greatly benefit the federal, state and local emergency disaster agencies and the public at large. Interoperability of voice services should be required as part of the Commission's rules, if not immediately, then after some reasonable period of time to allow for development of industry standards.

The degree to which interoperability and nationwide roaming can be achieved would be enhanced, at least initially, by having large service areas with a few number of providers. In the Notice (paragraph 60), the Commission sets forth four options for service areas. The NS/EP planner would prefer that the Commission adopt Option 4, which provides for nationwide service areas. A national service area would result in a set of national standards being developed so that interoperability and nationwide roaming would be a reality. Having many licensees with small service areas could result in a panoply of equipment manufacturers, all

with different models, designs, etc. As the Commission stated in the Notice, paragraphs 58 and 59, there may be certain advantages to both large and smaller service areas. On balance, from an NS/EP perspective, the larger the better, for this will promote the development of nationwide standards in support of universal and transparent service in a more timely fashion than otherwise. Only nationwide standards will guarantee interoperability and nationwide roaming. In as much as the Commission has tentatively concluded that a federal advisory committee on PCS standards is not called for (Notice, paragraph 106), it is especially important that the economic incentive a nationwide service area would provide serve as the impetus for standards development.

INTERCONNECTION

The previous section stated that the proposed PCS service should be able (and be required) to interconnect to the PSN and the Manager agrees totally with the Commission's statement in paragraph 99 of the Notice that it "... propose(s) to confirm explicitly that PCS licensees have a federally protected right to interconnection with the PSTN." The Notice tentatively concludes that the type of interconnection with the PSN should be determined at the federal level. The Manager agrees with that assessment, for the NS/EP user has a need to interconnect to the PSN in any jurisdiction nationwide, quickly. The Manager also agrees with the Commission's further tentative conclusion that state and local regulation of the kinds of interconnection to which PCS providers are entitled should be preempted. (Notice, paragraph 103.)

REGULATION

In paragraphs 94 through 98 of the Notice, the Commission discusses the regulatory treatment to be afforded PCS. The Commission asks whether it should classify the PCS providers as common carrier services (with some common carrier regulation) or as private land mobile service carriers (with no common carrier treatment). If the PCS licensees are classified as private carriers, then they would not have to participate in the Telecommunications Services Priority system[3]. Those rules are applicable to common carriers only. The TSP system has proven to be of great benefit for NS/EP purposes, as demonstrated recently during the Hurricane Andrew disaster in Florida and Louisiana. The hurricane resulted in a total of 350 TSP service invocations which provided for the provisioning of 4,094 circuits/services. If the PCS services are to be available to NS/EP users in crisis situations, then there should be a way for the NS/EP user to have priority in acquiring the service. The TSP system allows that to happen, but only with common carriers. It would be expected that PCS common carriers would be full participants in the TSP system, but as with other carriers, not being obliged to provision or restore services that the carrier could not provision or restore.

THE FEDERAL-WIRELESS SERVICES USER FORUM AND THE INTERAGENCY CELLULAR WORKING GROUP

The Federal Wireless-Service User Forum ("WUF") is a group of Federal government wireless services users established by the Manager.

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[3] See, Appendix A to Part 64 of the Commission's Rules.

Its establishment followed recommendations to the President by his National Security Telecommunications Advisory Committee (NSTAC). The recommendations were contained in the NSTAC's report of September 1992 entitled "Towards National Security and Emergency Preparedness (NS/EP) Wireless/Low Bite Rate Digital Services". The WUF functions as a Government-wide focal point to define wireless service requirements and identify them to industry and standards bodies.

The Interagency Cellular Working Group (ICWG) is composed of authorized representatives of all interested Federal agencies who act on behalf of those agencies with respect to their wireless communications needs.

These two groups, in a collaborative effort, have identified certain initial service requirements for Federal government use of PCS. The combined efforts of the two groups is attached hereto as attachment B, and the Manager is filing Attachment B on behalf of both groups. The service requirements are preliminary only. The requirements are summarized below.

SERVICE REQUIREMENT SUMMARY

The Federal user requirements encompass a broad array of user needs in the defense and civil agencies. Wireless services provided by PCS will likely enhance the performance and efficiency of day to day operations of defense, law enforcement (including drug interdictions) and many other activities. The Federal user service requirements are common with those of the business community, with some exceptions. Users require voice, data, facsimile, paging and imagery services for

diverse applications. Privacy features are required in many applications. Services should appear to the user to be universally available using a common device with transparent operation. During periods of crisis, it is especially important that PCS resources be available and readily configurable both nationally and internationally. (Notice, paragraph 27)

Ideally, PCS would be supported by a single common air interface for all services nationally and internationally. While the mix of new technologies, diverse radio channels and political situations make this impractical today, it is important to have radio characteristics that can support services that are mutually compatible and can be made seamless to the user. Common signalling mechanisms are essential if multiple access is expected under the umbrella of PCS. If common signalling channels and protocols are not available, automatic translation should be accomplished.

Services valuable to the Federal users would include voice (see comments above regarding mandatory provision of voice services), asynchronous data, synchronous data, Group 3 (G3) and Group 4 facsimile, encrypted voice and data, paging and imagery. These services should be transparent to the user across a variety of wireless access networks and intervening networks. G3 facsimile, for example, should operate transparently with modem based G3 facsimile on the PSN. It would be appropriate for network interworking to be provided to support transparent operation of wireless PCS with the PSN, to include Integrated Services Digital Network (ISDN) and packet networks.

As PCS services become realities, the Federal government will

become users of the services, assuming the services are designed to meet the needs identified above.

CONCLUSION

The Manager of the National Communications System urges the Commission to consider the National Security/Emergency Preparedness issues presented herein when adopting its final rules pertaining to the Personal Communications Service.

Respectfully submitted,

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NATIONAL COMMUNICATIONS SYSTEM
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October 30, 1991

IN REPLY
REFER TO

MEMORANDUM FOR MANAGER, NATIONAL COMMUNICATIONS SYSTEM

SUBJECT: National Level Telecommunications Program (NLP) Implementation and Functional Requirements

By White House memorandum dated October 15, 1991, (attached) the President's National Security Advisor has again reaffirmed NSDD-97 and EO 12472 as the primary policy guidance for the National Level National Security and Emergency Preparedness (NS/EP) Telecommunications Program. Additionally, specific functional requirements for NS/EP telecommunications planning and programing that have been issued over two Administrations have been reaffirmed. EO 12656 remains the primary guidance for Agency and Department NS/EP responsibilities to include telecommunications.

Based on this guidance, request the National Communications System (NCS) plans and the NLP be reviewed to ensure that the NCS initiatives are in conformance with the new functional requirements. With the significantly changing threats and budget constraints, the NCS NLP should ensure an adequate level of survivability and endurability measures at an acceptable level of risk and at a reasonable cost. There should be continued emphasis on commercial network security and recovery initiatives that support NS/EP operations. The emergency energy programs for NS/EP telecommunications requirements remain a vital initiative and your continued cooperation with the Department of Energy is encouraged.

To ensure the NCS member organizations are aware and supportive of the NCS goals, request that copies of this correspondence along with the White House guidance be provided to the NCS Committee of Principals.

Duane P. Andrews

Attachment

THE WHITE HOUSE

WASHINGTON

October 15, 1991

MEMORANDUM FOR THE HONORABLE DICK CHENEY
Executive Agent, National Communications System

SUBJECT: National Level Telecommunications Program Implementation and Functional Requirements

The June 24, 1991, memorandum from the Manager, National Communications System on the National Level Program indicates that an excellent effort to restructure the program is underway. To ensure that the National Level Program is correctly oriented for national security/emergency preparedness (NS/EP) requirements, it is worthwhile to reiterate that NSDD-97 and Executive Order 12472 remain the primary policy guidance. Primary guidance on agency and Department NS/EP responsibilities is Executive Order 12656. Specific functional requirements contained in those three documents and in other guidance issued by the Executive Office of the President are:

VOICE BAND SERVICE	The service must provide voice band service in support of presidential communications.
INTEROPERABILITY	The service must interoperate with and use the resources of selected other government or private facilities, systems, and networks through the application of standards.
SURVIVABILITY/ ENDURABILITY	The service must provide for the interconnection of surviving users under a broad range of circumstances from wide-spread damage from natural or manmade disaster up to and including nuclear war.
INTERNATIONAL INTERFACE	The service must provide access to and egress from international service.

NATIONWIDE COVERAGE	The service must provide readily available nationwide coverage to support the national security leadership and inter/intra agency emergency operations.
INTRA/INTERAGENCY EMERGENCY OPERATIONS	Common user service must provide NS/EP traffic with priority service.

Brent Scowcroft

FCC Notice of Proposed Rule Making
Personal Communications Services
Comments Submitted by The Interagency Cellular Radio Working Group
and the
Federal Wireless-Services User Forum

1.0 Background

Federal government users of today's wireless communications services are especially aware of the impact Personal Communications Services (PCS) will have on their future. The availability of cost efficient and universal PCS will enhance the effectiveness and productivity of many government agencies. Such advantages however will only be realized if PCS develops to accommodate the diverse national and international missions of the federal government. Federal user requirements are similar to those of state and local governments as well as the business community and should be given serious consideration in decisions affecting the future of PCS.

The Interagency Cellular Radio Working Group (ICWG) is comprised of authorized representatives of all interested federal agencies who act on behalf of those agencies with respect to their wireless communications needs. These comments represent the views of the ICWG in its official capacity representing those agencies as cellular, and prospective PCS, customers. Therefore, the ICWG has standing as an interested party to file these comments as the authorized representative of the federal government as a cellular customer.

The Federal Wireless-Services User Forum (WUF) is group of Government wireless service users chaired by the Office of the Manager National Communications System in response to tasking by the President. Its establishment followed from recommendations of the President's National Security Telecommunications Advisory Committee in their 5 September, 1992 Report. These comments are put forth in the interest of an early and clear definition of the government user's need both to support the user and enhance the market and service of PCS. Many of the issues identified in the Notice of Proposed Rule Making touch on areas affecting the federal government user. The comments that follow are organized first by a summary of the federal user requirements followed by specific comments on the Notice of Proposed Rule Making.

2.0 Federal User Requirements

The Federal User Requirements encompass a broad array of users needs in the defense and civil agencies. Wireless services provided by PCS will enhance the performance and efficiency of day to day operations of defense, law enforcement, drug enforcement, and countless other activities. These services will also play a significant role in natural disasters and crisis situations. These service requirements are common to those of the business community with few exceptions. Users require voice, data, fax, paging and imagery services for diverse applications. Security features are required in most applications. Services

should appear to the user to be universally available using a common device with transparent operation. During periods of crisis it is especially important that PCS resources be available and readily configurable both nationally and internationally. These general requirements are expanded below.

2.1 Common Radio Characteristics

Ideally PCS would be supported by a single common air interface for all services nationally and internationally. While the mix of new technologies, diverse radio channels and political situations make this impractical today it is important to encourage the regulators, operators and manufacturers toward radio characteristics that can support services that are mutually compatible and can be made seamless to the user. Within the large frame work of possible access mechanisms addressed under the umbrella of PCS, some combinations of these are more important than others. The pairs of services below are thought to be those where seamless operation would be required. These paired services need not overlap.

Paired Access Mechanisms	
Satellite	Cellular
Cellular	Microcellular
Microcellular	Wireless PBX
Wireless PBX	Cordless

Seamless operation for the above paired services would imply that they would have radio characteristics that are compatible and sufficiently common that a common radio device would be practical to support both services.

2.2 Common Signalling

Common signalling mechanisms are essential if multiple access is expected under the umbrella of PCS. Where common signalling channels and protocols are not possible, automatic translation should be accomplished.

2.3 Teleservices

Independent of the wireless access mechanism a minimum set of teleservices should be available to the user. While these services might vary with the bandwidth of the access service or an intervening network, service choices and protocols should be common. These should include but are not limited to:

Voice (with a common vocoder scheme)
Asynchronous data
Synchronous Data
Group 3 and Group 4 Facsimile

STU-III encrypted voice/data
Paging
Imagery

2.4 Common User Interface

User interface for PCS devices should support a minimum set of common user interface features that will facilitate operation across the various PCS access networks and PCS devices. Examples include common key pad functions such as * and #, and common signalling such as "0perator" and "911".

2.5 Common Data Device Interface

The interface between PCS terminals and data devices should be limited to a common set of options defined by national and international standards.

2.6 Transparent Network Interworking

The teleservices identified above should be transparent to the user across a variety of wireless access networks and intervening networks. G3 facsimile, for example, should operate transparently with modem based G3 facsimile on the PSTN. Network interworking should be provided to support transparent operation of wireless PCS with the PSTN, ISDN and with Packet networks. Specifically, the federal government as a potential customer of a PCS service would require the PCS be fully interconnected with the PSTN. Without full automatic interconnection, PCS would not provide the benifit that government users would require of this service.

2.7 Security Services

Federal user requirements include a variety of security services common to the normal business user. These should be available in public PCS networks. Additional security requirements for federal users are identified as suited to private networks or supplied by the application. A Tabulation of Federal user requirements by category are shown below

FEDERAL WIRELESS REQUIREMENTS SECURITY SERVICES	Public Networks	Private Networks
Confidentiality		
Data Content	YES	YES
Signalling	NO	YES

FEDERAL WIRELESS REQUIREMENTS SECURITY SERVICES	Public Networks	Private Networks
Addressees	NO	YES
Detection	YES	YES
Identification	YES	YES
Geolocation	YES	YES
Integrity: Accidental or Malicious		
Modification	TBD	YES
Insertion	TBD	YES
Deletion	TBD	YES
Destruction	TBD	YES
Authentication		
Individual	YES	YES
Device	YES	YES
Network	NO	YES
Availability: Accidental or Malicious Denial of Service		
Survivability	YES	YES
Emergency Access	YES	YES
ECCM for malicious	NO	YES
Accountability		
Auditable	TBD	YES
Notarization	TBD	YES
Non Repudiation	TBD	YES

TBD - To Be Determined

Note: These Security Services are defined in accordance with ISO 7498-2-1988(E), Security Architecture, which is available from WUF c/o ICWG.

2.8 Cost Efficient Service

Use of PCS by Federal users is dependent on cost sensitivity of the service. Where multiple wireless access mechanisms are available, the least expensive access mechanism should automatically be selected consistent with the user control or teleservice requirements.

3.0 Specific Comments on Notice of Proposed Rule Making

The following specific comments are provided. These comments are organized around the paragraphs of the Notice of Proposed Rule Making and are based on the federal user requirements presented in section 2.

3.1 Need for Service (Paragraph 26)

The need for PCS to augment emergency communications is vital. Recent experience in Dade County Fla. with hurricane Andrew supports this position as the only remaining communications intact after the disaster was the local cellular network. We recommend that the FCC's rules set standards for PCS systems which will maximize the operation of a PCS system during, and after, an emergency. Those rules would need to address elements such as construction standards and backup power. Furthermore, in an emergency, ICWG and the WUF would like the FCC rules to include a provision requiring PCS licensees to give priority access to government users or potential government users who need PCS service when they respond to an emergency.

3.2 Need for Service (Paragraph 27)

A strategy for international use of PCS is essential to Federal users whose mission is international. Such a strategy should encourage, in the long term, compatible services that are common both in frequency allocation and in the underlying technologies.

3.3 Number of Providers (Paragraph 34)

Federal user requirements for universal service and cost efficient service would require either seamless nationwide service and/or seamless interoperable regional services in a cost competitive environment. The option of 3-5 providers supports competition but would not support universal operation without some commonality of approach.

The ICWG recommends that the Commission license 2 nationwide PCS carriers. We support 2 carriers because of the nationwide usage of government users, from FEMA to Defense and everyone in between. If the Commission finds that proposal to be not economically feasible, we recommend that the Commission license at least one block of spectrum to a nationwide carrier and the remaining spectrum block(s) be licensed in 49 major trading areas or 194 LATAS. If the Commission chooses no nationwide carrier, we request the Commission require automatic seamless roaming.

3.4 Size of Spectrum Blocks/Block Allocations (Paragraphs 35-39)

The allocation of 15 MHz blocks in pairs consistent with the licensing of 3-5 providers appears reasonable. Use of PCS for emergency applications and other practical considerations suggest that such allocations be dynamically configurable such that a particular provider and associated access technology might be expanded as the market or an emergency situation might dictate.

3.5 Unlicensed Devices (Paragraph 41)

Unlicensed devices and services support early introduction of new services and customized services as might be required by federal users. Such a frequency band for unlicensed devices is encouraged.

3.6 2 GHz Service Areas (Paragraphs 56-61)

Federal users needs for universal service would suggest at least one Nationwide service.

3.7 Technical Standards (Paragraph 104-108)

The language of this Notice proposes that no FCC advisory committee be established for standards setting in the current environment and furthermore proposes that industry bodies are serving that function. While these are reasonable positions, the diversity of technologies under consideration today for cellular and PCS suggest that fragmentation of the market and limited interoperability may be the result. Some direction and encouragement from the FCC is recommended to move industry and industry standards bodies toward solutions that will support universal and transparent service. The federal user requirements in section 2 for Common Radio Characteristics, Common Signalling, Teleservices, User Interface, Data interface and Network Interworking represent a minimum set of categories where common solutions can and should be standardized in the long term.

3.8 Interoperability & Roaming (Paragraph 130)

The language in the Notice of Proposed Rule Making does not appear to require intersystem interoperability among different system licensees. We ask that the FCC require automatic seamless roaming to support universal and transparent service.